

REMARKS

The Office Action dated January 24, 2006 has been received and carefully noted.

The above amendments to claims 1-4, 6, 14, 21, 24-31 and the following remarks, are submitted as a full and complete response thereto. Claim 22 has been canceled without prejudice or disclaimer. Claims 1-4, 6, 14, 21, 24-31 have been amended to improve the clarity of the features recited therein. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-21 and 23-31 are pending and under consideration.

In the final Office Action, claims 1 and 2 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Application No. 2002/065785 to Tsuda (“Tsuda”) in view of U.S. Application No. 2003/0119501 to Kim (“Kim”). The Office Action took the position that Tsuda and Kim disclose all the aspects of claims 1 and 2. It is respectfully asserted that, for at least the reasons provided herein below, Tsuda and Kim fail to teach or suggest the recitations of the pending claims. Reconsideration is requested.

Independent claim 1, upon which claims 2, 3, and 24-26 are dependent, recites a method for determining an address of a network node for a certificate issuance and delivery procedure, said network node serving a certificate authority in a visited network where the subscriber currently locates in a mobile communication system. The method includes maintaining in the mobile communication system subscriber's location information, and determining, in response to receiving a message from subscriber's user

equipment, said message indicating that the address of the network node in the visited network is requested, on the basis of the subscriber's location information the address of the network node.

As will be discussed below, Tsuda and Kim fail to disclose or suggest the elements of any of the presently pending claims.

Tsuda generally describes a function for carrying out AAA processing and authentication and accounting processes carried out between AAA function (AAAM) on a mobile node and a visited network or the mobile node and a home network. See paragraph [0054]. When the mobile node is connected to the visited network, for example, the mobile node 1010 transmits a registration request to the home agent or the AAAH server according a Mobile IP protocol. See Fig. 1 and paragraphs [0061]-[0065].

Kim generally describes how to create and update home zone information of a subscriber. FIG. 5 illustrates a base station system parameter database that stores every base station's inherent ID (Bts_id), location information of each base station, and so forth. See paragraph [0040]. The base stations located within the designated distance from the subscriber's residence regard or decide all sectors as a service sector. The exception range in Kim is a value necessary for establishing the designated distance through which the base stations made the decision aforementioned. Kim, thus, describes how to create and update home zone information of a subscriber. The base station ID in the home zone information remains the same regardless where the subscriber locates.

Kim also provides to select subscribers under the influence, those subscribers living within a designated distance centering certain base stations.

Accordingly, Kim describes that the stored information does not depend on location information of the subscriber. Kim also does not teach or suggest determining, on the basis of the subscriber's location information, the address of the network node. The base station system parameter database storing location information of each base station alone does not teach or suggest a determination of an address of a network node.

However, neither Tsuda nor Kim teach or suggest a method to determine "an address of a network node for a certificate issuance and delivery procedure," where the network node serves as "a certificate authority," as recited in independent claim 1.

For instance, Tsuda describes that the address of the AAAH is determined from identification information called NAI (Network Access Identifier). See paragraphs [0086] and [0089]. However, Tsuda does not teach or suggest a need of determining, in response to receiving a message from subscriber's user equipment, said message indicating that the address of the network node in the visited network is requested, based on subscriber's location information. Accordingly, the Office Action correctly recognized that Tsuda fails to teach the determining step recited in independent claim 1 and relied on Kim as teaching such recitation.

In view of the descriptions of Kim, Kim does not cure the deficiencies of Tsuda. A combination of Tsuda and Kim would fail to teach or suggest all the recitations of independent claim 1. Instead, the combination of Tsuda and Kim would simply provide

that mobile IP network could have home zone information and provide home zone services in a subnet using an address of AAAH. It would also include a database storing location information of each base station. However, there is no teaching or suggestion in Tsuda or Kim providing “a network node for a certificate issuance and delivery procedure, said network node serving a certificate authority in a visited network,” as recited in independent claim 1. Also, there is no teaching or suggestion in the combination of Tsuda and Kim providing, “determining, in response to receiving a message from subscriber’s user equipment, said message indicating that the address of the network node in the visited network is requested, on the basis of the subscriber’s location information the address of the network node,” as recited in independent claim 1.

Accordingly, in view of the foregoing, it is respectfully requested that independent claim 1 and related dependent claim 2 be allowed.

In the final Office Action, claims 3-5, 9, 21-23, and 25 were rejected under 35 U.S.C. § 103 as being unpatentable over Tsuda, Kim, and further in view of U.S. Application No. 2002/0145561 to Sandhu et al. (“Sandhu”). The Office Action took the position that Tsuda, Kim, and Sandhu disclose all the aspects of independent claims 4 and 21 and related dependent claims. It is respectfully asserted that, for at least the reasons provided herein below, Tsuda, Kim, and Sandhu fail to teach or suggest the recitations of the pending claims. Reconsideration is requested.

Independent claim 4, upon which claim 5 is dependent, recites a method for determining an address of a network node for a certificate issuance and delivery

procedure, said network node serving a certificate authority in a mobile communication system, the network node being in a location network of a subscriber, said location network being a visited network of the subscriber. The method includes receiving in the mobile communication system a message from subscriber's user equipment, the message indicating subscriber's location information, and determining, in response to the message, on the basis of the subscriber's location information the address of the network node in the visited network.

Independent claim 6, upon which claims 7-13 and 20 are dependent, recites a method for transmitting, to subscriber's user equipment, information required for a certificate issuance service in another network than a home network in a mobile communication system. The method includes authenticating the subscriber, and transmitting to the user equipment at least part of the information required for obtaining the certificate in the other network during the subscriber authentication.

Independent claim 21, upon which claims 22-23 are dependent, recites a mobile communication system comprising at least user equipment, home network for the user equipment and a visited network comprising at least a network node for a certificate issuance and delivery procedure, said network node serving a certificate authority, the system being configured to determine an address of the network node on the basis of location information of the user equipment.

Dependent claims 3 and 35 depend from independent claim 1, dependent claim 5 depends from independent claim 4, dependent claim 9 depends from independent claim 6, and dependent claims 22 and 23 depend from independent claim 21.

Further, because the combination of Tsuda, Kim, and Sandhu must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 3 and 25, the arguments presented above supporting the patentability of independent claim 1 over Tsuda and Kim are incorporated herein.

As will be discussed below, Tsuda, Kim, and Sandhu fail to disclose or suggest the elements of any of the presently pending claims.

Sandhu generally describes a mobile unit regularly obtaining its location through a location-determining technology, such as GPS, and sending the location to a service provider computer. See abstract. The service provider computer maintains a database of the current location of all the mobile units, and provides the location of the mobile units to each of the mobile units.

In Tsuda, AAA stands for authentication, authorization, and accounting. See paragraph [0004], thereby failing to teach a certificate issuance service. Further, paragraph [0186] of Tsuda generally provides that a subscriber may be authenticated, in addition to checking host name (and user name) by using a certificate authority. Tsuda is devoid of any teaching or suggestion of a certificate issuance. Tsuda is silent about how certificate service is implemented. Tsuda merely provides that a certificate authority may

be used when a terminal or user is authenticated. Kim is similarly silent in providing a certificate issuance.

Furthermore, Sandhu does not cure the deficiencies of Tsuda and Kim. Sandhu limits its description of using a plurality of mobile units to locate one another using multiple satellites (i.e., GPS). Similarly to Tsuda and Kim, Sandhu does not broach the concept of determining an address of a network node address for a certificate issuance and delivery procedure, the network node serving a certificate authority in a mobile communication system, the network node being in a location network of a subscriber, said location network being a visited network of the subscriber. A combination of Tsuda, Kim, and Sandhu would fail to teach or suggest determining or to determine, “in response to receiving a message from subscriber’s user equipment, said message indicating that the address of the network node in the visited network is requested, on the basis of the subscriber’s location information the address of the network node,” as recited in independent claim 1, “in response to the message, on the basis of the subscriber’s location information the address of the network node in the visited network,” as recited in independent claim 4, and “an a network node address of the network node on the basis of location information of the user equipment, wherein the network node is in a location network of the user equipment,” as recited in independent claim 21.

In view of the description provided in the references, a combination of Tsuda, Kim, and Sandhu would describe that mobile IP networks could have home zone information and provide home zone services in the subnet using the address of AAAH

and that mobile user terminals could obtain location information from GPS and forward such information to a known address wherefrom location information may be delivered to indicate recipients. Accordingly, the combination of Tsuda, Kim, and Sandhu would fail to teach or suggest sending information which related to visited network or another network than a home network as in independent claims 1, 4, and 21.

Referring to independent claim 6, a combination of Tsuda, Kim, and Sandhu would fail to teach or suggest, “transmitting, to subscriber’s user equipment, information required for a certificate issuance service in another network than a home network in a mobile communication system, … transmitting to the user equipment at least part of the information required for obtaining the certificate in the other network during the subscriber authentication,” as recited in independent claim 6. None of the references provide transmitting at least part of the information for obtaining a certificate issuance service. Tsuda simply mentions that a certificate authority exists (paragraph [0186]), but nothing more. The particular features recited in independent claim 6 are not described in Tsuda, Kim, and Sandhu.

Further, the various dependent claims recite important features related to the specific activities performed. For example, dependent claim 3 recites, “receiving in the mobile communication system a message from subscriber’s user equipment, the message including subscriber’s location information; checking whether or not the location information in the message corresponds to the location information maintained in the system; and using the maintained location information if it does not correspond to the

location information in the message. On page 10 of the office action, it was correctly recognized that Tsuda is silent as to teaching checking whether or not the location information in the message corresponds to the location information maintained in the system and none of the other cited references disclose checking whether an address in a message corresponds to an address maintained in the systems. As a matter of fact, none of the cited references, individually or combined, teach that it is checked whether or not an address in a message corresponds to a determined address, thus, supporting the patentable subject matter recited in dependent claim 3.

Accordingly, in view of the foregoing, it is respectfully requested that independent claims 1, 4, 6, and 21 and related dependent claims be allowed.

In the final Office Action, claims 24 and 26 were rejected under 35 U.S.C. § 103 as being unpatentable over Tsuda, Kim, Sandhu and further in view of U.S. Application No. 2003/0092425 to Okazaki et al. (“Okazaki”). The Office Action took the position that Tsuda, Kim, Sandhu, and Okazaki disclose all the aspects of dependent claims 24 and 26 and related dependent claims. It is respectfully asserted that, for at least the reasons provided herein below, Tsuda, Kim, Sandhu, and Okazaki fail to teach or suggest the recitations of the pending claims. Reconsideration is requested.

Dependent claims 24 and 26 depend from independent claim 1. Because the combination of Tsuda, Kim, Sandhu, and Okazaki must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 24

and 26, the arguments presented above supporting the patentability of independent claim 1 over Tsuda, Kim, and Sandhu are incorporated herein.

Okazaki generally describes a method for security access to mobile IP network and selecting one mobility agent when the mobile node cannot authenticate any of the Advertisements messages it received. See paragraph [0013]. Okazaki provides that a certificate is always requested from the home administrative server responsible for authentication of a mobile node, but Okazaki is silent as to teaching or suggesting a certificate issuance service. In other words, Okazaki describes that the mobile node contains information needed to obtain a certificate, and, therefore, this information is not transmitted or received.

In view of the description provided in the references, a combination of Tsuda, Kim, Sandhu, and Okazaki would describe that mobile IP networks could have home zone information and provide home zone services in the subnet using the address of AAAH and that mobile user terminals could obtain location information from GPS and forward such information to a known address wherefrom location information may be delivered to indicate recipients, where a certificate is always requested from the home administrative server responsible for authentication of a mobile node. Accordingly, the combination of Tsuda, Kim, Sandhu, and Okazaki would fail to teach or suggest a method for “determining an address of a network node for a certificate issuance and delivery procedure, said network node serving a certificate authority in a visited network where the subscriber currently locates in a mobile communication system,” and

“determining, in response to receiving a message from subscriber’s user equipment, said message indicating that the address of the network node in the visited network is requested, on the basis of the subscriber’s location information the address of the network node,” as recited in independent claim 1.

Accordingly, in view of the foregoing, it is respectfully requested that independent claim 1 and related dependent claims 24 and 26 be allowed.

In the final Office Action, claims 6-8, 10-20, and 27-31 were rejected under 35 U.S.C. § 102 as being anticipated by U. S. Application No. 2002/0065785 to Tsuda (“Tsuda”). The Office Action took the position that Tsuda describes all the recitations of independent claims 6, 14, 27, 28, and 30 and related dependent claims. It is respectfully asserted that, for at least the reasons provided herein below, Tsuda fails to teach or suggest the recitations of the pending claims. Reconsideration is requested.

Independent claim 14, upon which claims 15-19 are dependent, recites a method for transmitting to subscriber’s user equipment information required for a certificate issuance service in another network than a home network of the subscriber in a mobile communication system. The method includes authenticating the subscriber, receiving a message relating to the service, and transmitting, in response to the message, to the user equipment in a reply message at least part of the information required for obtaining the certificate in the other network in response to the received message.

Independent claim 27 recites a method for transmitting to subscriber’s user equipment information required for a certificate issuance service in a mobile

communication system. The method includes authenticating the subscriber, and transmitting to the user equipment at least part of the information using an authenticated channel, said at least part of the information containing information required for obtaining the certificate in another network than a home network of the subscriber.

Independent claim 28, upon which claim 29 is dependent, recites a network node in a mobile communication system, wherein the network node is in a home network of a subscriber and arranged to determine, in response to receiving a message indicating a request for a service from the subscriber, an address of another network node required for providing the service for the subscriber on the basis of subscriber's location information, said another network node being in another network than the home network.

Independent claim 30, upon which claim 31 is dependent, recites user equipment in a mobile communication system, wherein the user equipment is arranged to receive at least part of information required for a certificate issuance service in a location network of the user equipment after the user equipment has been authenticated, said location network being a visited network and said at least part of the information containing information required for obtaining the certificate in the visited network.

As will be discussed below, Tsuda fails to disclose or suggest the elements of any of the presently pending claims.

As previously set forth, Tsuda generally describes authentication, authorization, and accounting (see paragraph [0004] of Tsuda), thereby failing to teach or suggest a certificate issuance service. Paragraph [0186] of Tsuda provides that a subscriber may be

authenticated, in addition to checking host name (and user name) by using the certificate authority. Certificate issuance is not contemplated in the description of Tsuda. There is no teaching or suggestion in Tsuda that some information required to obtain a certificate is transmitted to a user equipment. In other words, Tsuda is devoid of any teaching or suggestion about how certificate service may be implemented. Tsuda merely teaches that a certificate authority may be used when a terminal or user is authenticated. In addition, Tsuda is silent as to sending information which related to visited network or another network than a home network.

In view of the foregoing, Tsuda fails to teach or suggest, “information required for a certificate issuance service in another network than a home network in a mobile communication system...transmitting to the user equipment at least part of the information required for obtaining the certificate in the other network during the subscriber authentication,” as recited in independent claim 6, “method for transmitting to subscriber’s user equipment information required for a certificate issuance service in another network than a home network of the subscriber in a mobile communication system...transmitting, in response to the message, to the user equipment in a reply message at least part of the information required for obtaining the certificate in the other network in response to the received message,” as recited in independent claim 14, “transmitting to the user equipment at least part of the information using an authenticated channel, said at least part of the information containing information required for obtaining the certificate in another network than a home network of the subscriber,” as

recited in independent claim 27, “the network node (AU-H) is in a home network of a subscriber and arranged to determine, in response to receiving a message indicating a request for a service from the subscriber, an address of another network node required for providing a the service for a the subscriber on the basis of subscriber’s location information, said another network node being in another network than the home network,” as recited in independent claim 28, and “said location network being a visited network and said at least part of the information containing information required for obtaining the certificate in the visited network,” as recited in independent claim 30.

Accordingly, in view of the foregoing, it is respectfully requested that independent claims 6, 14, 27, 28, and 30 and related dependent claims be allowed.

CONCLUSION:

In view of the above, Applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1-21 and 23-31 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
Request for Continued Examination (RCE) Transmittal
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